B' cancel'd.

Sub C' cancel'd.

24. (Unamended) A stage system, comprising:

a linear motor as recited in Claim 20; and

a stage to be driven by said linear motor.

25. (Unamended) An exposure apparatus, comprising:

a stage system as recited in Claim 24; and

an optical system for illuminating a substrate to be conveyed by said stage system.

26. (Unamended) A device manufacturing method, comprising the steps of:

applying a photosensitive material to a substrate;

exposing the substrate by use of an exposure apparatus as recited in Claim 25; and

developing the exposed substrate.

REMARKS

Summary

Amended independent Claims 1, 6, 7, 8, and 20 recite at least one feature not disclosed or suggested by the patent to Kamata, et al. Therefore, is the outstanding rejection of these claims over this patent still proper?

Status of the claims

Claims 1-26 are pending. Claims 1, 6-9, and 20 have been amended. Claims 1, 6-8, and 20 are independent.

Requested action

Applicants respectfully request the Office to reconsider and withdraw the outstanding rejections in view of the foregoing amendment and the following remarks.

Applicants also respectfully request that this amendment be entered. This Amendment could not have been presented earlier as it was earnestly believed that the claims on file would be found allowable. Given the Examiner's familiarity with the application, Applicants believe that a full understanding and consideration of this Amendments would not require undue time or effort by the examiner. Moreover, for the reasons discussed below, Applicants submit that this Amendment places the application in condition for allowance. At the very least, it is believed to place the application in better form for appeal. Accordingly, entry of this Amendment is believed to be appropriate and such entry is respectfully requested.

Formal rejection

Claims 1-19 are rejected under 35 U.S.C. § 112, second paragraph, for minor informalities in Claims 1, 6, 7, 8, and 9 for informalities in Claims 1 and 6-9. In response, while not conceding the propriety of the rejection, Claims 1 and 6-9 have been amended to address the points raised by the Examiner. Applicants submit that as amended, these claims now even more clearly satisfy 35 U.S.C. § 112, second paragraph.

Allowable subject matter

Applicants gratefully acknowledge the indication that Claims 4, 10, and 16 would be allowable if rewritten to overcome the rejection under 35 U.S.C. § 112, second paragraph, and to

include the features of the base claim and any intervening claims from which they depend. These claims have not been redrafted in independent form because the independent claims from which they depend are allowable for the reasons discussed below.

Substantive rejection

Claims 1-3, 5-9, 11-15, and 17-26 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,084,319 (Kamata, et al.).

Response to substantive rejection

In response, while not conceding the propriety of the rejection, independent Claims 1, 6-8, and 20 have been amended. Applicants submit that as amended, these claims are allowable for the following reasons.

Independent Claim 1 relates to a linear motor, comprising a magnet, a coil, and a jacket having an inside member that is comb-shaped and having teeth, extending along a driving direction. A cooling medium flows through an inside space enclosed by the jacket.

Claim 1 has been amended to recite that the coil is supported by a recessed portion of the comb-shaped member and is held fixed, with respect to the driving direction, by being sandwiched by protruded portions of the comb-shaped member, the protruded portions of the comb-shaped member being disposed at least along an outside periphery of the coil.

By this arrangement, coils can be disposed to be partially overlapping, as shown in Fig. 2, without an increase of the thickness of the portion of the motor that the magnet passes. In addition, this arrangement improves the rigidity and natural frequency of the jacket, thereby also permitting improvements in the precision of a precision positioning apparatus in which the linear

motor is incorporated and precludes the need for enlargement of the size of the motor, thereby preventing deformation or breakage of the jacket and improving the cooling efficiency.

In contrast, the patent to Kamata, et al. is not understood to disclose or suggest that a coil is supported by a recessed portion of the comb-shaped member and is held fixed, with respect to the driving direction, by being sandwiched by protruded portions of the comb-shaped member, the protruded portions of the comb-shaped member being disposed at least along an outside periphery of the coil, as recited by amended Claim 1. For this reason, amended Claim 1 is allowable over this patent. And since Claims 6-8 have been amended in a similar manner, they are allowable for similar reasons.

Independent Claim 20, relates to a linear motor, comprising a magnet, a coil, and a coil holding member.

Claim 20 has been amended to recite that the coil holding member has recessed portions and protruded portions, in a comb-shape, along a relative movement direction between the magnet and the coil, wherein the coil is supported by a recessed portion of the coil holding member and, with respect to the movement direction, it is held fixed by being sandwiched by plural protruded portions of the coil supporting member, the protruded portions being disposed at least along an outside periphery of the coil.

In contrast, the patent to Kamata, et al. is not understood to disclose of suggest a coil holding member having recessed portions and protruded portions, in a comb-shape, along a relative movement direction between the magnet and the coil, wherein the coil is supported by a recessed portion of the coil holding member and, with respect to the movement direction, it is held fixed by being sandwiched by plural protruded portions of the coil supporting member, the

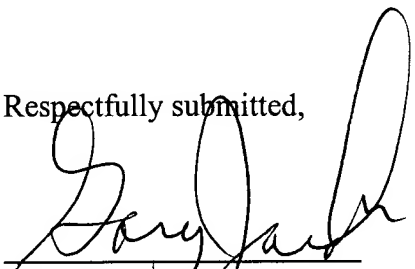
protruded portions being disposed at least along an outside periphery of the coil, as recited by amended Claim 20. For this reason, amended Claim 20 is allowable over this patent.

The dependent claims are allowable for the reasons given with respect to the independent claims and because they recite features which are patentable in their own right. Individual consideration of the dependent claims is respectfully solicited.

In view of the above amendments and remarks, the claims are now in allowable form and entry of this Amendment is considered proper. Therefore, early passage to issue is respectfully solicited.

Applicants' undersigned attorney may be reached in our Washington, D.C. Office by telephone at (202) 530-1010. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,



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MARKED-UP AMENDED CLAIMS

1. (Twice Amended) A linear motor, comprising:

a magnet;

a coil; and

a jacket having an inside member that is comb-shaped and having teeth, extending along a driving direction, wherein a cooling medium flows through an inside space enclosed by said jacket, and wherein the coil is supported by a recessed portion of the comb-shaped member and is held fixed, with respect to the driving direction, by being sandwiched by protruded portions of the comb-shaped member, the protruded portions of the comb-shaped member being disposed at least along an outside periphery of the coil.

6. (Twice Amended) A stage system, comprising:

a movable stage;

a linear motor having a magnet and a coil, for driving said stage; and

a jacket having an inside member that is comb-shaped having teeth, extending along a driving direction, wherein a cooling medium flows through an inside space enclosed by said jacket, and wherein the coil is supported by a recessed portion of the comb-shaped member and is held fixed, with respect to the driving direction, by being sandwiched by protruded portions of the comb-shaped member, the protruded portions of the comb-shaped member being disposed at least along an outside periphery of the coil.

7. (Twice Amended) An exposure apparatus, comprising:

a movable stage for holding a substrate thereon;

a linear motor having a magnet and a coil, for driving said stage; and

a jacket having an inside member that is comb-shaped having teeth, extending along a driving direction, wherein a cooling medium flows through an inside space enclosed by said jacket, and wherein the coil is supported by a recessed portion of the comb-shaped member and is held fixed, with respect to the

driving direction, by being sandwiched by protruded portions of the comb-shaped member, the protruded portions of the comb-shaped member being disposed at least along an outside periphery of the coil.

8. (Twice Amended) A device manufacturing method, comprising the steps of:

applying a photosensitive material onto a substrate;

exposing the substrate by use of an exposure apparatus including a movable stage for holding a substrate thereon, a linear motor having a magnet and a coil, for driving said stage, and a jacket having an inside member that is comb-shaped having teeth, extending along a driving direction, wherein the coil is attached to said jacket while being sandwiched by the comb-shaped member with respect to the driving direction and] wherein a cooling medium flows through an inside space enclosed by said jacket, and wherein the coil is supported by a recessed portion of the comb-shaped member and is held fixed, with respect to the driving direction, by being sandwiched by protruded portions of the comb-shaped member, the protruded portions of the comb-shaped member being disposed at least along an outside periphery of the coil; and

developing the exposed substrate.

9. (Twice Amended) A linear motor according to Claim 1,

wherein said jacket has a reinforcement portion extending parallel to a driving direction, wherein said coil is enclosed by said jacket.

20. (Amended) A linear motor, comprising:

a magnet;

a coil; and

a coil holding member having recessed portions and protruded portions, in a comb-shape, along a relative movement direction between the magnet and the coil, wherein the coil is supported by a recessed portion of the coil holding member and, with respect to the movement direction, it is held fixed by being

sandwiched by plural protruded portions of the coil supporting member, the protruded portions being disposed at least along an outside periphery of the coil.

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